REMARKS

In the Official Action mailed on **3 October 2006**, the Examiner reviewed Claims 1-17. Claims 1-17 were rejected under 35 U.S.C. §103(a) as being anticipated by Santhanam (USPN 5,704,053, hereinafter "Santhanam"), in view of Wu et al. (US Pub. No. 2003/0066061 hereinafter "Wu").

Rejections under 35 U.S.C. §103(a)

Independent claims 1, 8, and 13 were rejected as being anticipated by Santhanam in view of Wu. Applicant respectfully points out that Santhanam teaches determining a lower bound on an achievable loop iteration latency (the number of cycles to execute a loop iteration) based on machine resource usage (see Santhanam, col. 13, lines 39-45). Santhanam uses this loop iteration latency to determine a "prefetch iteration distance," which specificies the number of loop iterations ahead to prefetch (see Santhanam, col. 13, lines 10-20).

In contrast, the present invention calculates the execution time for a single loop iteration (see page 15, lines 13-14 of the instant application), and in doing so adjusts the execution time to account for the probability that a basic block executes (see page 15, lines 14-17 of the instant application). Then, this adjusted execution time is used to calculate the prefetch ahead distance, which indicates how many loop iterations to prefetch for (see page 15, lines 5-7, and see page 15, lines 18-24 of the instant application). By using the execution probability of a basic block to calculate the prefetch ahead distance instead of an arbitrary lower bound, the present invention is able to prefetch more accurately than Santhanam.

There is nothing within Santhanam or Wu, either explicitly or implicitly, that teaches using the execution probability of the identified data references to calculate a prefetch ahead distance.

Accordingly, Applicant has amended independent claims 1, 8, and 13 to clarify that the present invention calculates an execution time of a single loop

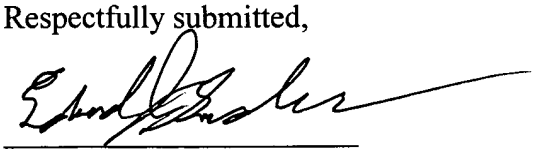
iteration which includes the identified data references, wherein the execution time includes an adjustment for the execution probability of the identified data references. These amendments find support on page 15, lines 5-7, and on page 15, lines 13-24 of the instant application.

Hence, Applicant respectfully submits that independent claims 1, 8, and 13 as presently amended are in condition for allowance. Applicant also submits that claims 2-7, which depend upon claim 1, claims 9-12, which depend upon claim 8, and claims 14-17, which depend upon claim 13, are for the same reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

CONCLUSION

It is submitted that the present application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

By 

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